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Army mandates ‘green’ construction

By Andrea Takash

Imagine an environmentally friendly building where the work force controls the office temperatures, solar panels generate electricity and rainwater soaks back into the ground recharging the aquifer.

This is not a tale of an office building for a Fortune 500 company, but instead it is a true story about new features in military construction.

Starting with fiscal year 2008, all new military vertical building construction projects must be capable of achieving a silver level of Leadership in Energy and Environmental Design for New Construction, better known as LEED®-NC. Army family housing and Residential Communities Initiative will continue to attain the Sustainable Project Rating Tool’s (SPiRiT) gold rating level.

As one of the U.S. Army Corps of Engineers’ centers of standardization, the Engineering and Support Center, Huntsville, is prepared to support the LEED requirement.

“As Huntsville Center project teams work on the various standard designs for Army installations, the teams will ensure that the LEED requirement is met,” said Todd DuVernay, chief of Huntsville Center’s Specifications and Service Branch and a LEED accredited professional.

The U.S. Green Building Council (USGBC), a non-profit organization, developed LEED, which is a rating system that provides standards for the design, construction and operation of “green” buildings. Buildings that meet certain requirements can achieve certified, silver, gold or platinum rating levels. The LEED requirements fall under five focus areas: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

People use the word “sustainable” frequently when referring to environmentally friendly products. When it comes to designing buildings, the word takes on an extensive definition.

“Sustainable design and development (SDD) meets human needs by maintaining a balance between development, social equality, ecology and economics,” said Annette Stumpf, a project manager at the Engineer Research and Development Center’s Construction Engineering Research Laboratory and a LEED accredited professional. “SDD also considers the environmental impact, energy use, natural resources, economy and quality of life.”

DuVernay pointed out that sustainable features benefit the work force, too.

“Studies have shown that when people breathe clean air in their office and control their heating, air conditioning and lighting, they perform better,” he said. “These features also have shown a decrease in absenteeism.”

To be successful in using SDD and meeting LEED requirements, DuVernay stressed the need to start at the beginning phase of the project and include a representative from each engineering discipline.

"The team must do a good job of identifying sustainable features at the beginning of the planning phase," he said. "The funding, design and construction of LEED buildings will work better if design integration between all disciplines starts at the planning phase and keeps going through building operations."

Huntsville Center's team for the Army Community Service Center standard design started planning for LEED requirements in the initial phase of the design.

"At the start, we searched out every avenue for sustainable features. We set project goals and came up with the best product for the user," said Marilyn Scott, an architect in Huntsville Center's Architecture Branch. "As we move along in the design, we will see what features will really work."

The team is looking at a variety of ways to employ sustainable features as much as possible, Scott said.

"One aspect that we are looking at is mechanical equipment as means of increasing energy efficiency," she said. "We are continually looking at ways to cut costs on energy use. We want Army installations to be able to maximize all of the sustainable features in the design."

Under the Army's mandate, project teams must self-rate the project using the LEED checklist, which includes various sections where projects earn points under the five focus areas.

"Project teams do not have to certify the project through the USGBC, but the teams must self-rate the project," Stumpf said. "Teams are encouraged to register projects on the USGBC Web site because this gives them access to more resources and support from the USGBC."

Not only are project teams required to self-rate their project but they also are required to have a LEED accredited professional on the team.

"In order to get accredited, people must take the LEED accreditation test," DuVernay said. "I encourage people to put LEED accreditation on their individual development plan and study before taking the test. Even if people do not get accredited, it is important to understand LEED. There should not be only one person on the team that understands the LEED requirements."

Stumpf said she agrees with DuVernay's point on understanding LEED.

"Team members need to actually read the LEED resources. It is common sense, but people need to learn it," she said. "We are working with the USGBC to provide training materials on LEED for Corps employees. The Army is a member of the USGBC, so all Corps employees are eligible for the member discount on any USGBC training or reference material."

For more information on LEED, visit the USGBC Web site at www.usgbc.org or the Engineering Knowledge Online site at https://eko.usace.army.mil/fa/sdd/.

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